

ABSTRACT

In accordance with an embodiment of the present intention, a fluorine residue removing method includes: supplying an oxygen-containing gas and a hydrogen-

- 5 containing gas into a CVD chamber; producing a plasma of a mixture of the oxygen-containing gas and the-hydrogen containing gas, so that the plasma reacts with the fluorine residue, exothermically generating water; and evacuating from the CVD chamber a product of the reaction
- 10 between the plasma and the fluorine residue. For the hydrogen-containing gas, NH<sub>3</sub> is often used, and for the oxygen-containing gas, N<sub>2</sub>O, O<sub>2</sub>, or air is used.
- 15 Exemplary mixtures of the oxygen-containing and the hydrogen-containing gases include 70 mol % N<sub>2</sub>O/NH<sub>3</sub>, 50 mol % N<sub>2</sub>O/NH<sub>3</sub>, and 52 mol % O<sub>2</sub>/NH<sub>3</sub>. An inert gas, such as He, Ne, Ar, or Kr, can be optionally supplied into the chamber to stabilize the plasma.